TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT

IMPROVED CRANE TECHNOLOGY FOR BUILDING 324

Identification No.: RL-DD079
Date: November 2001

Program: 300 Area Facility Transition
OPS Office/Site: Richland Operations Office/Hanford
PBS No: RL-RC06
Operable Unit (if applicable): N/A.
Waste Stream: N/A.
Waste Management Unit (if applicable): N/A.
Facility: Building 324

Priority Rating:

This entry addresses the "Accelerated Cleanup: Paths to Closure (ACPC)" Priority:

____ 1. Critical to the success of the ACPC.
_X_ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high life-cycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays).
____ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

Need Title: Improved Crane Technology for Building 324

Need/Opportunity Category: *Technical Opportunity* – The Site desires an alternative to the current baseline technology.

Need Description: Technologies, techniques, and methods are needed to provide upgrades to improve the reliability and maintainability of the 324 Building cranes. Upgrades would decrease downtime and would help to accelerate the deactivation schedule.

Schedule Requirements:

Earliest Date Required: (01/01/02)
Latest Date Required: (09/30/06)

Problem Description: Down-time from the presently deployed crane systems is a major factor in the risk to achieving TPA (regulatory) milestones under the 324 Building Closure Plan. Greater than $1M per year is presently spent on crane repair and maintenance tasks.

Potential Life-Cycle Cost Savings of Need (in $000s) and Cost Savings Explanation: A ROM LSCCS that could be realized from a 50% improvement in operational "up-time" between now and 2006 is a value in excess of $3M.

Benefit to the Project Baseline of Filling Need: Improved crane reliability will reduce cleanup downtime and should result in schedule acceleration. Equipment maintenance staff would also incur less radiation dose.

Relevant PBS Milestone:

TRP-06-921	324 Deactivation Complete	September 22, 2006

Functional Performance Requirements: It is desired to upgrade existing cranes throughout the 324 Building to enhance both their reliability in a remote environment (especially the high-rad hot cells) and ease-of repair. The hot cell environment contains high levels of radiation (2,000 to 5,000 R/hr) and chemical contamination.

Work Breakdown Structure (WBS) No.: 1.04.10, 324/327 Buildings Stabilization/Deactivation

TIP No.: N/A

Justification for Need:

Technical: Crane reliability improvements are needed to support hot cell cleanout.

Regulatory: Tri-Party Agreement Milestone M-89-00: Complete Closure of the Non-permitted MW Units of the 324 REC, HLV and LLV by October 2005.

Environmental Safety and Health: Improved crane reliability and maintainability will reduce the personnel exposure required to repair the current cranes.

Cultural/Stakeholder Concerns: Stakeholders are concerned about releases to the environment. The 324 Building is located within 1,000 ft of the Columbia River.

Other: Improved crane systems can be transferred to other facilities and applications.

Current Baseline Technology: 324 Building currently uses bridge cranes for a variety of lifting purposes.

End User: EM-40.

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